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**Explanatory document to the proposal for the
coordinated redispatching and countertrading
methodology for Capacity Calculation Region Hansa
in accordance with Article 35 of the Commission
Regulation (EU) 2015/1222 of 24 July 2015 establishing
a Guideline on Capacity Allocation and Congestion
Management**

20 December 2017

1. Introduction

The Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on Capacity Allocation and Congestion Management (hereafter referred to as “CACM Regulation”) sets out rules to ensure optimal use of the transmission infrastructure, operational security and optimizing the calculation and allocation of cross-zonal capacity.

To implement the CACM Regulation, it is required to develop a common methodology for coordinated redispatching and countertrading (hereafter referred to as “CRC Methodology”). Pursuant to Article 35 of the CACM Regulation, all TSOs in the CCR Hansa have established a proposal for coordinated redispatching and countertrading. This document provides additional information and an explanation of the proposal.

The proposal for the CRC Methodology in CCR Hansa has to be submitted for approval to all national regulatory authorities (hereinafter “NRAs”) within CCR Hansa no later than 16 months after the regulatory approval of capacity calculation regions referred to in Article 15 of the CACM Regulation. The date of submission of this proposal for NRA approval is therefore to be 17 March 2018 at the latest. Moreover, the proposal shall be subject to consultation in accordance with Article 12 of the CACM Regulation.

With regard to Norway, the CACM Regulation has not yet been implemented as Norwegian law due to delay in implementing the Regulation (EC) No 714/2009. No decision has been made from the Norwegian government at the time of writing this CRC Methodology, but there are no indications of obstacles in relation to implementing the CACM Regulation. This document is written under the assumption of Statnett that Norway will implement the CACM Regulation prior to the implementation deadline for this CRC Methodology.

This document is built up as follows. Chapter 2 describes the legal references and requirements relevant for this proposal. The legal context is used to interpret the scope of this proposal and notably what “redispatching” and “countertrading” is to cover. Chapter 3 focuses on explaining the essence of the proposal with description of the uses of redispatching and countertrading as well as the coordination process. Chapter 4 is dedicated to documentation of redispatching and countertrading actions. Further, chapter 5 presents the foreseen implementation of this proposal. Lastly, the results of the consultation will be covered in chapter 6 in the final explanatory document. The description of the current use of redispatching and countertrading constitutes Annex 1 to this explanatory document.

2. Legal references and requirements

A number of relevant parts of the preamble of the CACM Regulation are cited here and should be taken into account in order to properly interpret the articles stated further below.

No. 10 of the preamble of the CACM Regulation states that TSOs should:

“use a common set of remedial actions such as countertrading or redispatching to deal with both internal and cross-zonal congestion. In order to facilitate more efficient capacity allocation and to avoid unnecessary curtailments of cross-border capacities, TSOs should coordinate the use of remedial actions in capacity calculation.”

Followed by no. 12 of the preamble:

“TSOs should implement coordinated redispatching of cross-border relevance or countertrading at regional level or above regional level. Redispatching of cross-border relevance or countertrading should be coordinated with redispatching or countertrading internal to the control area.”

The basis for the CRC Methodology is Article 35(1) of the CACM Regulation:

“Within 16 months after the regulatory approval on capacity calculation regions referred to in Article 15, all the TSOs in each capacity calculation region shall develop a proposal for a common methodology for coordinated redispatching and countertrading.”

Article 35(2) further states that:

“The methodology for coordinated redispatching and countertrading shall include actions of cross-border relevance and shall enable all TSOs in each capacity calculation region to effectively relieve physical congestion irrespective of whether the reasons for the physical congestion fall mainly outside their control area or not.”

And lastly Article 35(3) states that the CRC Methodology shall:

“address the fact that its application may significantly influence flows outside the TSO’s control area.”

The CRC Methodology following Article 35 of the CACM Regulation is also interlinked with Article 21 of Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (hereafter referred to as “SO Regulation”) specifying that each TSO shall apply principles when activating and coordinating remedial actions in accordance with Article 23 of the SO Regulation:

“for operational security violations which need to be managed in a coordinated way, a TSO shall design, prepare and activate remedial actions in coordination with other concerned TSOs, following the methodology for the preparation of remedial actions in a coordinated way under Article 76(1)(b) and taking into account the recommendations of a regional security coordinator in accordance with Article 78(4).”

Further Article 23(2) of SO Regulation specifies that:

“When preparing and activating a remedial action, including redispatching or countertrading pursuant to Article 23 and 35 of Regulation (EU) 2015/1222, or a procedure of a TSO’s system defence plan which affects other TSOs, the relevant TSO shall assess, in coordination with the TSO concerned, the impact of such remedial action or measure within and outside of its control area, in accordance with Article 75(1), Article 76(1)(b) and Article 78(1), (2) and (4) and shall provide the TSOs concerned with the information about this impact.”

Also relevant in this respect is the requirement for TSOs to develop common provisions for operational security coordination on a regional level in Article 76(1) of the SO Regulation:

“...all TSOs of each capacity calculation region shall jointly develop a proposal for common provisions for regional operational security coordination, to be applied by the regional security coordinators and the TSOs of the capacity calculation region.”

Article 76(1) further specifies that:

“The proposal shall respect the methodologies for coordinating operational security analysis developed in accordance with Article 75(1) and complement where necessary the methodologies developed in accordance with Articles 35 and 74 of Regulation (EU) 2015/1222.”

Lastly, Article 78(1) of the SO Regulation states:

“Each TSO shall provide the regional security coordinator with all the information and data required to perform the coordinated regional operation security assessment, including at least:

*...(b) the updated list of possible remedial actions, among the categories listed in Article 22, and their anticipated costs provided in accordance with Article 35 of Regulation (EU) 2015/1222 if a remedial action includes **redispatching or countertrading**, aimed at contributing to relieve any constraint identified in the region; and ...”*

The methodologies from the CACM Regulation and the SO Regulation are thus highly interlinked. The following chapters provide a description of CCR Hansa’s interpretation and scope of this proposal.

2.1 Definition of redispatching and countertrading

According to the Commission Regulation (EU) 543/2013 of 14 June 2013 on submission and publication of data in electricity markets and amending Annex 1 to Regulation (EC) No 714/2009 of the European Parliament and of the Council (hereafter referred to as “Transparency Regulation”) Article 2(13):
“countertrading’ means a cross-zonal exchange initiated by system operators between two bidding zones to relieve physical congestion.”

Countertrading is therefore considered a measure with the objective to relieve physical congestions between two bidding zones, where the precise generation or load pattern alteration is not pre-defined¹. This measure is a market based-solution, where the cheapest bid is selected independently of the geographical location within the bidding zone.

Article 2(26) of the Transparency Regulation further clarifies that:
“Redispatching’ means a measure activated by one or several system operators by altering the generation and/or load pattern in order to change physical flows in the transmission system and relieve a physical congestion.”

Redispatching is therefore considered a measure with the objective to relieve physical congestions by altering a particular generation and/or load pattern. Specifically, this refers to one or several TSO(s) requesting, when congestion appears, specific generators (or specific consumers) to start or increase production and specific other generators to stop or reduce production, in order to maintain the network security¹.

With regard to the above-mentioned definitions, the general idea of redispatching and countertrading is to alter the generation and/or load pattern by one or several TSO(s) in order to change physical flows and thereby relieve the physical congestion.

Countertrading and redispatching are also mentioned in Article 22 of the SO Regulation as categories of remedial actions² that are in line with the definitions specified in the above-mentioned section.

2.2 Interpretation and scope of the proposal

Firstly, this proposal is limited to CCR Hansa, meaning that the geographical scope of this proposal is confined to the bidding zone borders within the CCR Hansa and cross-border relevant parts of adjacent AC grids. The CRC Methodology is to be applicable to any future bidding zone border which may be added to CCR Hansa by NRA or ACER decision.

The legal framework stated above needs to be given an interpretation in order to formulate a legally sound proposal for the CRC Methodology to define the scope of this proposal and to make the proposal implementable.

According to Article 35 of the CACM Regulation, the CRC Methodology shall include actions of cross-border relevance. Countertrading has cross-border relevance in all situations due to the definitions, as described in chapter 2.1, whereas redispatching should only be part of this CRC Methodology as far as the action has cross border relevance.

Countertrading and redispatching are, as mentioned above, considered remedial actions as defined in the SO Regulation and can be prepared in different processes and in different timeframes, i.e. day-

¹ ACER: Based on the definitions from the questionnaire for Market Monitoring Report

² “Remedial action” is defined in Article 2(13) of the CACM Regulation as ‘any measure applied by a TSO or several TSOs, manually or automatically, in order to maintain operational security’.

ahead, intraday and real time.

When countertrading and redispatching are used for mitigating congestions, the TSOs identify the potential need in advance, while the effective application on the network will be done at the shortest time compatible, and if the TSOs' need is confirmed by the last available information on the expected situation. For example, countertrading and redispatching can be considered necessary to secure the grid under specific market scenarios but will not be applied if the market results turn out to be different from the assumption.

Since the above measures influence each other, an enduring coordination process is needed and the main target of the coordination process is to ensure that countertrading and redispatching that have been identified in one process step are also taken into account in the following process steps. To allow the Hansa TSOs to effectively relieve congestion, appropriate coordination between TSOs has to be ensured through this CRC Methodology. This coordination will largely be done through the Regional Security Coordinator (hereafter referred to as "RSC").

3. The Proposal for CRC Methodology

The reasons for the use of countertrading and redispatching in relation to the CCR Hansa bidding zone borders can be divided into three different groups. Subsequently, these are explained after which the coordination process is described. It is important to understand the overlapping nature of this CRC Methodology with the coordinated use of remedial actions in system operation in general as described in the SO Regulation.

3.1 The uses of countertrading and redispatching in relation to CCR Hansa bidding zone borders

In CCR Hansa, coordinated countertrading and redispatching actions are applied to:

a. Maintain minimum technical limit for stable operation of a Hansa HVDC interconnector

In the instance where instability of a HVDC line occurs when it is operated with specific levels of power exchange, it is necessary to adjust the exchange to a level where stable operation can be ensured. This adjustment of the flow to a level different than what is traded based on the market outcome is done by the use of countertrading.

b. Handle fault, failure or unplanned outage on a Hansa interconnector, including converter stations

In the event that an interconnector has a fault or an unplanned outage directly on the interconnector, it is necessary for the TSOs to bring back the balance in the systems on either side, which will be done through the use of countertrading and/or redispatching. This use of countertrading and/or redispatching will have to be maintained for as long as the TSOs are to guarantee the firmness of capacity on a bidding zone border after which the capacity is recalculated.

c. Handle a physical congestion in the AC grid with cross-border relevance for the CCR Hansa bidding zone borders

In the CCR Hansa CCM, it is foreseen that the CCR Hansa bidding zone borders will be represented by Advanced Hybrid Coupling (AHC) in the flow based CCMs of CCR Core and CCR Nordic. When that is implemented, the CCR Core and CCR Nordic capacity calculation processes will include the monitoring of critical network elements (CNEs) that are relevant for the CCR Hansa borders.

These CNEs will, along with other parts of the grid that TSOs find relevant, be a part of the operational security analysis that the RSC will carry out for all parts of the grid. If the RSC identifies a violation of the operational security limits, it will propose remedial actions to alleviate the violation, and the remedial action may be to use countertrading and/or redispatching across CCR Hansa borders to ensure the system stability with the exchanges allocated on the CCR Hansa borders.

If the suggested countertrading and redispatching actions are accepted by the TSOs, CCR Hansa will, in this case, carry out a 'post office' function between CCR Nordic and CCR Core, where the generation and load units are represented in the flow based capacity calculations, which also necessitates remedial actions, including countertrading and redispatching specifically, to be coordinated to ensure the most efficient use and to ensure minimisation of the use of counterproductive measures.

3.2 The coordination process

The CRC Methodology is centred on cooperation of the TSOs in CCR Hansa via the RSC. Specific requirements in the SO Regulation already require, to a large extent, coordination in respect to remedial actions. As redispatching and countertrading are remedial actions, these are implicitly included.

Coordination is done during different timeframes in relation to different markets. Preparing of countertrading and redispatching actions starts at D-1, i.e. the day before the day of delivery. Firstly, TSOs shall individually assess possible countertrading and redispatching actions and supply a list of these actions, including their anticipated costs, to the RSC. The RSC needs such a list, amongst other data such as common grid models, the contingency list and the operational security limits, in order to carry out a coordinated regional operational security assessment. The RSC then delivers the results of the coordinated regional operational security assessment to the Hansa TSOs.

The RSC shall, where it detects a constraint, recommend to the relevant TSOs the most effective and economically efficient redispatching and countertrading actions. This recommendation is the result of coordination across the borders of CCR Hansa, through coordination of the RSC with other RSCs.

Any recommendation received from the RSC for a particular redispatching or countertrading action shall be evaluated by the TSO with regard to the elements involved in that action and located in its control area. The decision-making right on the implementation of a redispatching or countertrading action remains with the TSOs but there shall be a duty to inform and explain the TSOs' decision to the RSC in case the recommendation by the RSC for a particular action is not accepted. The accepted recommended actions shall be included by the TSOs in the forthcoming individual grid model.

The process described leads to a considerable degree of coordination of redispatching and countertrading actions, as assessment for needed actions on a regional level will be performed by a third party, the RSC. Thus, this neutral entity will ensure more efficient dispatching of relevant resources on a regional level in comparison to the current situation where congestion is relieved bilaterally by involved TSOs.

Closer to real time there will be less possibilities for regional coordination via the RSC. In order to ensure coordination of unforeseen events causing physical congestions happening after the last relevant coordinated operational security analysis and until real time, the TSOs shall coordinate bilaterally with neighbouring TSO(s) in order to plan and carry out countertrading and redispatching. These TSOs will inform directly impacted TSOs in CCR Hansa as well as the CCR Hansa-appointed RSC. Lastly, TSOs will take into account the bilaterally agreed countertrading and redispatching actions in the next relevant IGMs. Congestions in third TSOs' grid as a result of a countertrading or redispatching

action should be avoided.

4. Documentation of redispatching and countertrading actions

Today, the TSOs in CCR Hansa are obliged to record and report the use and costs of redispatching and countertrading following the Transparency Regulation, more specifically Article 13(1) on information relating to congestion management measures:

"For their control areas, TSOs shall provide the following information to the ENTSO for Electricity:

(a) Information relating to redispatching per market time unit, specifying:

- *The action taken (that is to say production increase or decrease, load increase or decrease)*
- *The identification, location and type of network elements concerned by the action*
- *The reason for the action*
- *Capacity affected by the action taken (MW)*

(b) Information relating to countertrading per market time unit, specifying:

- *The action taken (that is to say cross-zonal exchange increase or decrease)*
- *The bidding zone concerned*
- *The reason for the action*
- *Change in cross-zonal exchange (MW)*

(c) The costs incurred in a given month from actions referred to in point (a) and (b) and from any other remedial action."

The TSOs of CCR Hansa already comply with these requirements³ today.

The CRC Methodology proposes that the appointed CCR Hansa RSC keeps a record of the proposed redispatching and countertrading actions for 5 years. The record shall include:

- the redispatching and countertrading carried out based on the RSC proposal,
- all additional redispatching and countertrading carried out in relation to the CCR Hansa borders, and
- all justifications for why a recommendation from RSC is not followed.

In the event that the TSOs launch bilateral countertrading or redispatching, the TSOs are obliged to inform the CCR Hansa RSC of these actions, including a justification, in order to record these actions.

With the recording of this information, the RSC has a full picture of the countertrading and redispatching action in CCR Hansa, including why a recommendation has not been followed by the TSOs. This information is also to be used for the cost-sharing between the TSOs following the methodology being developed according to Article 74 of the CACM Regulation.

³ Pursuant to Article 5 of Regulation (EU) No 543/2013 in cooperation between ACER and ENTSO-E Manual of Procedures was updated, with regards to the internal redispatching, it was decided that the information relating to congestion management measures in central dispatch systems (i.e. Italy, Poland, Greece, Ireland and Northern Ireland) cannot be published because it is not possible to distinguish between balancing and congestion management which are performed simultaneously.

5. Plan for implementation

The implementation of this proposal is dependent on a number of conditions:

- a) Regulatory approval of Redispatching and Countertrading Cost-Sharing Methodology required by Article 74 of the CACM Regulation;
- b) Coordinated Operational Security Analysis Methodology, according to Article 75 of the SO Regulation, has been implemented and is in operation for CCR Hansa, CCR Core and CCR Nordic.

The methodology for the coordinated operational security analysis will be submitted for approval by all NRAs in September 2018. Past experience shows that NRA approval processes take at least 6 months, at most 16 months if ACER needs to be involved in the decision-making process. Moreover, at present it is unknown which implementation timeline the Coordinated Operational Security Analysis Methodology will follow. It is therefore not possible, at this time, to give an indicative timing for when the proposal will be implemented.

6. Summary of stakeholders' comments

Annex 1: The current use of countertrading and redispatching

In this section, the present redispatching and countertrading solutions in place within the CCR Hansa are described below.

Reason	SE4-PL (HVDC)	DK2-DE/LU (HVDC)	DK1-DE/LU (AC)	NO2-NL (HVDC)
Tech. min. power	CT	N/A	N/A	N/A
Outage of interconnector	CT	CT	CT	RD?
Outage of AC grid network element	CT	CT/RD	CT/RD	N/A

6.1 SE4-PL

Today, “Agreed Supportive Power counter trading” is used as a countertrading measure for SwePol Link. It is used to maintain the commercial exchange in case of a disturbance of the SwePol Link (the cable + converter stations) and to guarantee a minimal technical limit for stable operation of the Link (60MW). Countertrading is also used in case of a disturbance in a TSO’s subsystem.

6.2 DK2-DE/LU

At the time of writing, the SOA of Kontek is under revision. Nevertheless, the following agreement is in place in case of a disturbance of the Kontek cable or its equipment:

Countertrading is used to maintain the commercial exchange in case of a disturbance of the Kontek cable or its equipment. Both TSOs, 50hertz and Energinet, take the necessary actions on either side of the DC link to establish this countertrade.

6.3 DK1-DE/LU

The methodology for coordinated redispatching and countertrading currently in place on the border of DK1-DE/LU is considered by both parties (Energinet and TenneT) as a tool for promotion of mutual solidarity and support in order to maintain secure network operation in their respective control areas.

Countertrading or Redispatching can be used in case of (n-1) violations at the tie-lines between Energinet and TenneT and/or at other transmission lines within the control areas TenneT and Energinet.

In case of activation of redispatching or countertrading, the parties endeavour to use sources with the highest expected influence on network congestion with respect to the applicable regulations, based on the availabilities. If there are different applicable sources with equal influence on the congestion available, the parties shall select the source with the lowest expected costs.

The decision for redispatching or countertrading is jointly taken by the parties. The selection of the generation units, which will change their generation in the respective transmission network, are jointly agreed, while the instruction for activation of the respective generation unit is in the responsibility of the Party to which the generation is physically connected. Redispatching or countertrading is only initiated after investigation and implementation of other available measures, e.g. topological measures. The parties align the delivery period, the volume (in MW) and the kind of remedial action, including fall-back solutions.

6.4 NO2-NL

No existing agreement on countertrading or redispatching is applied on the NorNed interconnector. Redispatching and countertrading only occurs in situations when there is a fault on the interconnector. Then, Statnett and TenneT NL are either countertrading or redispatching on each side of the border to alleviate the problem. Each TSO is covering its own costs. There is no agreement on exchange of balancing services.